CANCER
TREATMENT and RESEARCH FOUNDATION
of
NOVA SCOTIA

ANNUAL REPORT
APRIL 1, 1982 to MARCH 31, 1983

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Chairman's Remarks

September 30, 1983

Hon. G. Sheehy, D.V.M.
Minister of Health
Province of Nova Scotia

Dear Dr. Sheehy;

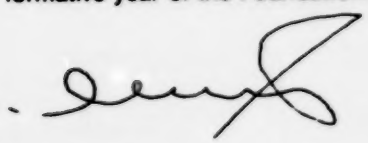
I am pleased to submit, on behalf of The Cancer Treatment Research Foundation of Nova Scotia, our first annual report.

The Foundation, created by the Legislature on June 5, 1980, marked a significant change in the thrust of cancer treatment in this Province. One of the first mandates of the foundation was to establish a Multi Disiplinary referral center in Halifax that would be divorced from any other existing health facility, and as a separate entity would provide first class Cancer treatment in the Province. As a consequence we now have in place, a new and modern facility in the "Dickson Building" that embodies a Department of Radiotherapy, the Tumor Clinic and the Tumor Registry, that were formerly located in the V.G. Hospital. It is with pride that I report that this facility is equipped with some of the most modern and efficient equipment found anywhere. I also acknowledge with pride the acclaim that our facility has received from Cancer specialists throughout this country. Although we are experiencing some manpower shortage, particularly in the Department of Radiotherapy, I believe we are offering excellent care as we continue to achieve wide spread acceptance throughout the health community of this Province.

One of the thrusts embodied in the act of incorporation was to establish an outreach program of consultative and followup clinics in regional centres throughout the Province. Initial steps have been taken to establish such clinics in Yarmouth and Sydney.

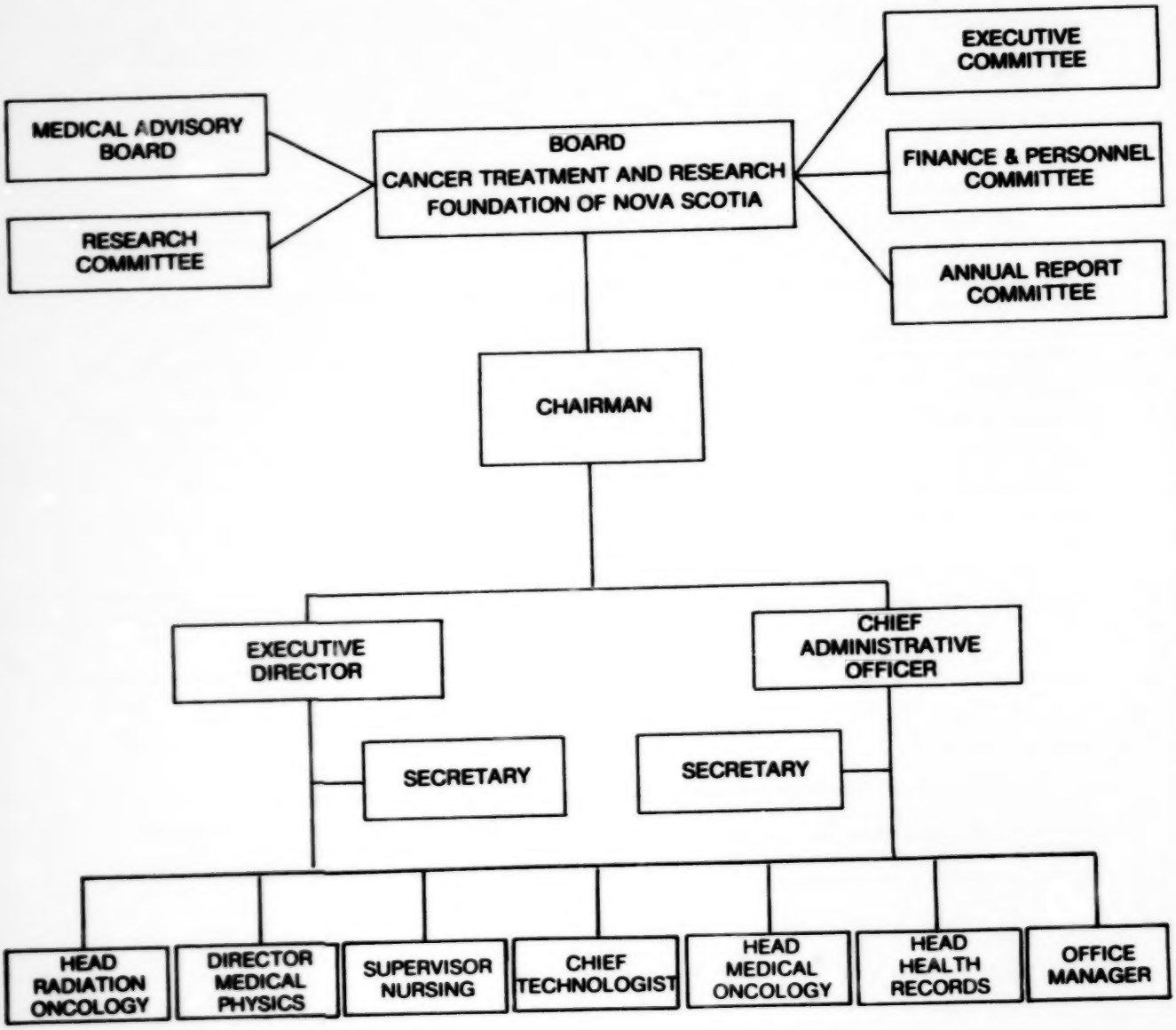
Cancer research is one of the mandates of our foundation and is extremely important, not only in attracting quality Cancer specialists, but also quality cancer treatment. The availability of research funds would, at the outset, appear to be a problem that might limit the effect development of our foundation. Obviously, funds will have to be found not only from private sources, but also from the public purse as well.

I would like to acknowledge the outstanding leadership given by Dr. D.H. Thomson, our Executive Director, and Harry Churchill, our Administrative Officer, who, together with the fulltime staff and consulting specialists, have provided yeomen service in the introduction of our program. Their dedication, care and concern has made my job as Chairman a satisfying and rewarding role in this formative year of the Foundation.



C.H. Durland
Chairman

ORGANIZATION CHART



COMMITTEES

FOUNDATION MEMBERS
Mr. Clare Durland, Q.C. — *Chairman*
Mrs. Florence Stevens
Mr. Gerald Martin
Mrs. Marlene Grantham
Mrs. Mary Ray
Mrs. Jans Henderson
Dr. Peter Jackson
Mr. William Gilbert
Dr. Emerson Moffitt
Dr. W. Carl Tupper
Mr. Peter MacKeigan
Miss Shulamith Medjuck
Dr. William Butt

EXECUTIVE COMMITTEE
Mr. C.H. Durland — *Chairman*
Mrs. F. Stevens
Dr. D.H. Thomson
Mr. H.J. Churchill

FINANCE AND PERSONNEL COMMITTEE
Mrs. F. Stevens — *Chairperson*
Mr. P. MacKeigan
Dr. W. Butt
Mr. C.H. Durland

ANNUAL REPORT COMMITTEE
Mrs. J. Henderson — *Chairperson*
Mrs. T. Croucher
Mr. H.J. Churchill

RESEARCH COMMITTEE
Dr. E. Moffitt — *Chairman*
Dr. J. Aldrich
Dr. W.C. Tupper
Dr. W. Butt
Dr. R. Chambers
Dr. J. Aquino
Dr. D. Thomson
Dr. A. Pyesmany
Mr. H. Churchill

MEDICAL ADVISORY COMMITTEE
Dr. D.H. Thomson
Dr. Michael Cook
Dr. F. Rahman
Dr. S. Awad
Dr. G.A. Lawrence
Dr. R.H. Burnett
Dr. S.M.A. Naqvi
Dr. R.J. Bedard
Dr. B. Badley
Dr. S.C. Robinson
Dr. D.A. Gillis
Dr. V.W. Ing
Dr. G.A. Legere
Dr. J. Gillies
Dr. B. Perey
Dr. J.D. Black
Dr. A. Pyesmany
Dr. G.P. Konok
Dr. J.M. O'Brien
Dr. M.R. Rajani

ORGANIZATION

ADMINISTRATION
Dr. D.H. Thomson
— Executive Director
Mr. H.J. Churchill
— Chief Administrative Officer
Mr. G. Hatcher
— Office Manager, Halifax Clinic
Miss A. Titus
— Secretary

SUPPORT STAFF
Mrs. N. Sims
Miss M. Haase
Nancy Samson
Tanya Lipskey

On June 5, 1980, the Legislature of the Province of Nova Scotia passed an Act to incorporate the Cancer Treatment and Research Foundation of Nova Scotia. The Foundation came into being after a considerable amount of time and study went into reviewing the current and improved ways and methods for cancer diagnosis, treatment and research in our province.

The Act indicates that its' membership shall consist of fifteen persons and seven of these will represent particular organizations or government departments. It also outlines the objects of the Foundation, which include:

(a) the establishment of multidisciplinary referral facilities for the diagnosis and treatment of cancer;

(b) the co-ordination of facilities for the diagnosis and treatment of cancer, including cancer clinics in community hospitals;

(c) the research into problems relating to cancer;

(d) the education of the public in co-operation with the Cancer Society;

(e) the providing of assistance for undergraduate and postgraduate study relating to cancer;

(f) the training of technical personnel;

(g) the providing and awarding of funds for research;

(h) the provision of a central cancer registry;

(i) to collaborate with the Cancer Society in assisting financially with the care of persons undergoing treatment.

The powers and authority of the Foundation are covered under the Act. On November 5, 1980, the Governor in Council, on recommendation of the Minister of Health, Dr. G. Sheehy, appointed the first members of the Foundation.

The first meeting was held on March 17, 1981. A review of the history leading to the formation of the Foundation, appointment of an Executive Director and the new facilities being built in the Ambulatory Care Centre at the Victoria General Hospital were topics of discussion.

At the meeting of April 22, 1981, Dr. D.H. Thomson was appointed Executive Director. Doctor Thomson has a considerable amount of experience in the cancer field, having come to Halifax after over twenty years in London, Ontario, with the Ontario Cancer Treatment and Research Foundation. On July 2, 1981, Mr. H.J. Churchill was appointed Chief Administrative Officer to be effective September 1, 1981.

During October, 1981, the Chairman and the Chief Administrative Officer visited Alberta, Saskatchewan and Ontario. These visits provided information on how they were organized, funded and other information on their role and relationship with other organizations. They also provided contacts for information we may require in the future.

In the fall of 1981 plans were started for the transfer of staff from the Victoria General Hospital and Halifax Infirmary to the Foundation. Also, meetings and discussions took place regarding the new clinic. The Foundation became a member of the Nova Scotia Association of Health Organizations in 1981. We were declared a facility by the Department of Health, which meant we were similar to a hospital for funding and billing purposes.

On December 17, 1981, Dr. G. Sheehy, Minister of Health, officially opened the Head Office of the Foundation. At the same occasion the Minister announced the purchase of two linear accelerators (Therac 6 and Therac 25) at a cost of 1.6 million dollars.

The first meeting of the Medical Advisory Board was held on February 20, 1982. The role of this Board is to advise and assist the Foundation in carrying out its' objectives. It has twenty members, ten of whom are from outside the Halifax area. The first meetings discussed how consultants are to be appointed, what clinics should be held, and method of remuneration of consultants.

On February 10, 1982, a plaque was unveiled in the Ballroom of the Nurses Residence of the Victoria General Hospital honoring Dr. Robert Clark Dickson and in whose name the building housing our clinic, will be named. Doctor Dickson, along with Dr. W.C. Tupper and Dr. C. Stewart were authors of a report that lead to the formation of the Foundation.

Committees established by the Foundation, under its' By-laws, include an Executive Committee, Finance and Personnel Committee and a Research Committee.

During the first year, Dr. J. Wickwire and Dr. A. Crowe resigned as members of the Foundation. Mrs. F. Stevens was appointed Vice-Chairman to replace Dr. Wickwire.

Report of the Executive Director

It is a great pleasure to submit this, the first report of the Cancer Treatment and Research Foundation of Nova Scotia for the year 1982-83, which has proved to be a busy, frustrating, yet productive and interesting one. In this time period the Foundation assumed responsibility for the Nova Scotia Cancer Registry, the Tumour Clinic of the Victoria General Hospital, and the Departments of Radiation Oncology, of both the Halifax Infirmary and the Victoria General Hospital.

The first phase of the Halifax Clinic of the Foundation was occupied on November 1, 1982 and Radiation Oncology was transferred from both hospitals over a period of approximately two weeks. Construction and refurbishing continued throughout the rest of the year and the out-patient clinics and the Cancer Registry are expected to be transferred to the main Clinic in mid May 1983.

All clinical sections of the treatment facilities of the Foundation continued to function without interruption in service throughout this time frame and the nursing, health records, physics, technical and medical staff are to be commended for their fortitude in these trying months.

The Medical Advisory Board has met on several occasions and, with the cooperation of the heads of the clinical departments of the Faculty of Medicine of Dalhousie University, consultants have been recommended to the Foundation Board to participate in the various out-patient clinics functioning in the Halifax Clinic. When all applications have been received, these names will be submitted to the Board of the Foundation for approval. The Research Advisory Committee of the Foundation, under the Chairmanship of Dr. Emerson Moffitt, has been active and will soon be submitting a final report advising the Foundation on the availability of funding, the extent of cancer research in Nova Scotia and the type of research project which should be supported by the Foundation. The funding of research in 1983 is a major problem. In view of fiscal restraint, and of necessity, there may be some unavoidable delay in setting up the research component of the Foundation.

The Victoria General Hospital has been most cooperative during this period of transition and has smoothed many of the problems as they have arisen.

Mr. H.J. Churchill has been a tower of strength during this formative year, and his many years of service with the Victoria General Hospital, his excellent relationship with the Department of Health and his organizing ability have been invaluable.

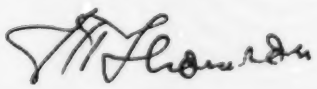
On February 1, 1983, Dr. D.F. White was appointed to head the Department of Medical Oncology within the Foundation and will build up this specialty over the next twelve months with the addition of other Medical Oncologists. Already there has been a heavy demand for his expertise. He will also coordinate the Out Reach Program of Chemotherapy, initiated by the Department of Health under the auspices of the Foundation.

In May, 1983, when the clinic building is completed, it is anticipated that there will be a coordinated program in oncology within the Foundation with the Halifax Clinic serving as a fully functional referral centre for advice and treatment for the Province of Nova Scotia. Two Linear Accelerators, one installed in January and a second to be installed in May of 1983, will provide radiation treatment facilities of the highest quality.

The Canadian Cancer Society has approved the provision of Lodge facilities for our cancer patients and the Nova Scotia Division is at present looking at properties which may be suitable for this project. A close liason has developed between the Foundation and the Society who are improving the service to patient aspect of their program and are implementing a CanSurmount Program.

We are indeed fortunate to have such a magnificent facility provided by the Department of Health in the Dickson Building. Comfortable and restful waiting areas, spacious and well appointed examination rooms and adequate lecture and seminar facilities are available for multidisciplinary patient discussion.

Respectfully submitted,



D.H. Thomson
Executive Director

Foundation Patients Registered and Examined
April 1 1982 to March 31 1983

EXAMINED IN CLINIC					PROVINCIAL CANCER REGISTRY	
New Patients			No. of Patients Reviewed (New and Return)		No. of New Pts Registered	No. of Second Primaries
Malig.	Benign	Total	Clini	Follow-up by Mail		
1676	312	1990	14,600	10,100	2344 — 2594	250

PATIENTS TREATED BY RADIATION

Type of Treatment	NO. of Patients	NO. of Treatment Visits
X-Ray	**152**	**657**
Linear Acc (operational Mar. 24/83)	11	30
Cobalt	1452	16,708
Gold Seed	56	56
Cesium	109	123
Beta Ray	66	94
Other (P32, I131)	112	112
Total	**1958**	**17,780**

DEPARTMENT OF RADIATION ONCOLOGY

Professor and Head of Dept. of Radiation Oncology
D.H. Thomson, M.B., Ch.B., D.M.R.T., F.R.C.P.(C)., F.A.C.R.

Associate Professor, Radiation Oncologist
R.M. Cunningham, M.D., D.M.R.T., F.R.C.P.(C)

Associate Professor, Radiation Oncologist
J.F. Filbee, M.B., B.S., D.M.R.T., F.R.C.P. (C)

Associate Professor, Radiation Oncologist
O.S. Wong, M.D., F.R.C.P.(C)

Lecturer, Radiation Oncologist
L.A. Garcia-Nicoletti, M.D., D.M.R.T.(Ed.)

Activities

During the time period covered by this report the department moved its' two divisions from the Halifax Infirmary and the Victoria General Hospital and consolidated in new quarters in the Halifax Clinic of the Foundation. Despite the problems associated with such a move and the down time on equipment, treatments continued and at no time was treatment delayed on any patient.

Due to the grave shortage of Radiation Oncologists in Canada, we have been unable to locate and appoint sufficient qualified physicians to our staff. The flow of Radiation Oncologists from Great Britain, who have been the mainstay of Radiation Oncology in Canada for many years, has finally dried up. It is hoped that in the near future this problem may be resolved.

The installation of a 6 MeV Linear Accelerator in January of 1983 and the future installation of a 25 MeV Linear Accelerator, with electron capacity, in May of 1983, will provide the clinic with a complete range of treatment modalities second to none in the world.

Clinical research participation has continued with a heavy involvement in the NCIC Clinical Trials and local studies in conjunction with the Department of Surgery and in the Children's Study Group in collaboration with the Department of Paediatrics in the Izaak Walton Killam Hospital.

As a form of medical audit treatment planning, rounds are held weekly and all patients having curative treatment are discussed and evaluated with representatives of the Departments of Medical Physics and Radiation Technology. Additionally, ward rounds have been established to discuss the care of all patients under the care of Radiation Oncologists in the Victoria General Hospital.

The workload statistics are published on page 00 of this report. There are no previous years for comparison because different reporting techniques and method of counting patients on treatment were used in the two divisions prior to amalgamation of the Radiation Oncology in the clinic. However, there has been a considerable increase in the volume of work performed on the treatment units, by interstitital implantation and intracavitary cesium.

The department has also taken over the therapeutic use of radioactive isotopes from the Department of Nuclear Medicine of the Victoria General Hospital.

NURSING DEPARTMENT

Supervisor
E. Brown *(Retired March 31, 1983)*
V. Teasdale *(Appointed March 2, 1983)*

Staff Nurses
Jasmine Buisseret
Helena Burrell
Anna Cake
Trudy Gordon
Anne Hammer
Bonny Osgood
Nancy Rice
Barbara Grant
Luella Woods

Casual (Part-Time)
Beverley Pierce
Wanda Raworth

Activities

In April, 1982, when the Tumour Clinic quietly became the Cancer Foundation, and for several months following, there was very little noticable change in the nursing area and the twenty one weekly clinics carried on as usual.

In November, when the Halifax Infirmary Radiotherapy Department and the Victoria General Radiotherapy Department moved into the Robert Clark Dickson Building, the format of the charts changed, and the workload in the Halifax Clinic increased, making it necessary to start a weekly rotation of a nurse from the Tumour Clinic to the Halifax Clinic.

Early in 1983 an additional nurse was added to the staff, allowing the nurses more time to talk with, and listen to, both patients and their families.

In February a Skin Neoplasm Clinic was established in the Halifax Clinic. When this is fully functional it will be a valuable addition.

In late February, two of the nurses were sent to Bayview Clinic in Toronto, and the Cancer Foundation in Hamilton, Ontario. They came back with an abundance of material and were very enthused about happenings there, especially Bayview, and excited about the future possibilities at the Halifax Clinic.

Very recently, Mrs. Virginia Teasdale was been appointed as the new Nursing Supervisor. All members of this department of the Foundation wish her well, and know that we will continue to serve the patients well under her leadership.

HEALTH RECORDS DEPARTMENT

Health Record Administrators	Thelma Croucher, Head Jean James Karen Starratt
Health Record Technician	Glenys Jackman
Reception	Linda Eisenhaver Joyce Christie
General Office Staff (including Provincial Cancer Registry)	Jocelyn Drane Marion Kirby Beverley MacMillan Charlotte Mill Clerise Smith (Registry) Judy Swinamer Rosemary Wheatley (Registry) Yvonne Van Dyk Ann Cooper Paula Hartling
Medical Transcriptionists	Florence Curran Bertha Furlong Mary Hutchins Patricia Lively Sheila Richardson Dale Tibbo

Activities

The Health Record Department is involved with all aspects of patient information, generating, collecting, indexing and disseminating for the purpose of patient care, research and education.

Within the Foundation, Health Records is responsible for —

General Records Office
— includes the file room activities, amalgamating of records from four previously separate areas, pre-clinic chart activities, documentation, clinic statistics, medical service reports, coding and indexing procedures.

Reception Area
— is responsible for greeting the patients, scheduling patients' return appointments, enrolling of all new patients (approximately 2000/year) and acting as main phone reception area for the Foundation.

Medical Transcriptionists Area
— responsible for medical transcription of all clinic notes, answers phones for medical staff and does other record related duties for on-staff medical doctors.

Provincial Cancer Registry
— established in 1964, records all incidence of cancer in the Province and follows the status of cancer patients. A statistical report is published annually.

I am pleased to say, that as of May 16, 1983, all Records staff are now in our permanent Records Office - during the past year we had to maintain two records departments, one in the new Halifax Clinic area and one in the former Tumour Clinic area. We are now in the process of streamlining our procedures.

The current patient record volume of active and inactive is 55,000 - all our charts dating back to 1953 are presently filed 'on site'.

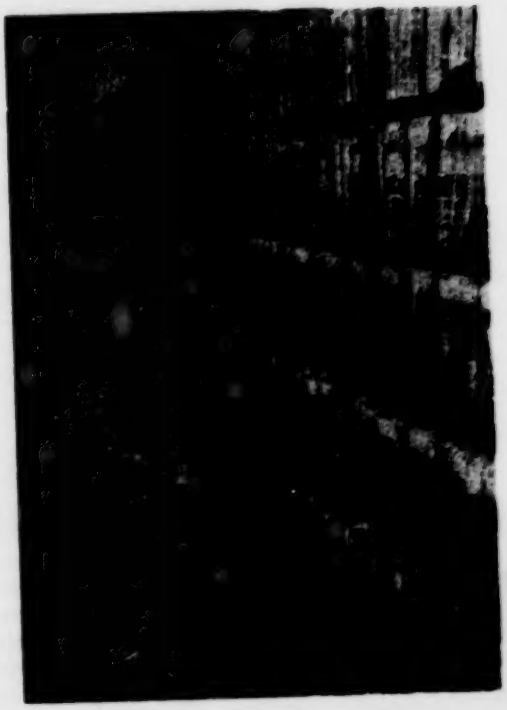
We have improved our record keeping system during the past year by using a Unit Box system of filing, upgrading our out-guide system and by the use of chart dividers in all our active records. A file clerk position has also been established; one staff member will do all pulling and filing of charts.

We hope to have an Addressograph system operating within the new few weeks; this will assist and be a tremendous time-saver for all Foundation staff. Initially, a card will be drawn up for internal use and kept with the chart.

At the Reception area we have been developing an upgraded scheduling system which will assist firstly the patient, and in turn the Physician and other Foundation staff. The main Reception desk handles the appointments for all patients, except those on radiation treatment (this is done on treatment wing).

The Clinic sees approximately 30,000 patients/year. Our Medical Transcriptionists are normally able to maintain a turnover time of 48 hours for dictated notes. We are presently doing a study on Central Dictating System for this area.

The Provincial Cancer Registry has an excellent reporting rate, approximately 98% of all cases of cancer in Nova Scotia are reported; there are approximately 2,800/year. However, the process of maintaining the status of all patients proved so time consuming with the manual procedures, that it was discontinued. Letters are sent out upon a physician's request for survey purposes.



The Health Records staff has been actively involved with the School for Health Record Science. Senior and junior students have been given a tour of the Foundation by Department Heads. As well, seven senior students did a research project on 'Ca. of the Endometirium and 'Ca. of the Prostate' One senior student also came over for a three week 'management rotation'; this included doing a study one a Central Dictating System and Word Processors. The junior students have also spent a week at the Foundation as part of their 'Quality Assurance Rotation'.

The Foundation has been actively pursuing the use of a computer based system to meet its' record keeping and information needs. We are hopeful that, by early 1984, we will be implementing Phase I of the Computer System, namely Provincial Cancer Registry and Scheduling.

TECHNICAL DEPARTMENT

Chief Technologist
Lynda Burgess

Supervisors
Marlene Smith
Carleen Wagner

Technologists
Nancy Alexander
Bonnie Eldershaw
Laurie Hawboldt
Kim Lloyd
Paula Robb
Debra Luukkonen

Instructor (School)
Janet Garrison

Activities

This has been an extremely busy and challenging year for the Radiation Therapy Department. The formation of the Cancer Treatment and Research Foundation of Nova Scotia occurred on April 1, 1982. The Radiotherapy Departments of the Victoria General Hospital and the Halifax Infirmary were amalgamated under the Foundation as the Technical Section. The departments were operated at their respective facilities.

In October, 1982, due to contractor commitments, the Radiotherapy Department left their basement existence in the Victoria General Hospital. At the same time, the Radiotherapy Department at the Halifax Infirmary ceased to exist. Both facilities were moved to the Robert Clark Dickson Building. This experience was definitely traumatic, confusing and uprooting for all staff. Though a dramatic increase in patient load was experienced, technologists worked overtime to maintain the high quality care, patient morale and efficiency of treatments. As these adverse conditions prevailed, technologists anxiously awaited new equipment arrival.

In January, 1983, the 6 MeV Linear Accelerator installation began and the first patient was treated on March 24, 1983. The 6 MeV Linear Accelerator combines modern computer technology and high energy x-rays to produce efficiency in patient treatments with minimal skin reactions.

Various in-service lecturers were provided to the technologists. The attendance was dictated by the patient work load.

In June, 1982, the technologists were given the opportunity to attend educational lectures at the National Society Convention held in Halifax. The technologists hosted a luncheon for therapy technologists from across Canada and the Foundation provided the facilities.

In March, 1983, Marlene Smith and Lynda Burgess toured and exchanged ideas with the cancer facilities in the Ottawa Clinic, Bayview Clinic and the Princess Margaret Hospital.

The School of Radiation Therapy has been affiliated with the Princess Margaret Hospital, Toronto, for student didactic sessions. Enrollment has been approved to give students a twenty four month training period.

Weekly Radiation Oncology Rounds are held on 9 Victoria with the Radiation Oncologists, Medical Oncologist, technologists, nurses and dietician in attendance. Weekly departmental patient review sessions are held with the Radiation Oncologists, technologists and Medical Physics section.

Staff loss has been four technologists - two technologists to British Columbia, one to England and one to the Ottawa Clinic.

Staff gain has been two technologists - Nancy Alexander, graduate of the School of Radiation Therapy, Victoria General Hospital and Debra Luukkenon from the Saskatchewan Clinic. As the physical problems are being overcome by the contractor, mechanical limitations by our machinist and electronics technician, the new facility takes an identity. Greater liason is existing with Metro hospitals for coordination of patient treatments and scheduling. The new equipment will provide improved scheduling of patient load and therapy. Therefore, there will be a reduction in patient delays.

Now a greater opportunity will exist for cooperation between Foundation sections to provide our ultimate goal - complete care for the cancer patient.

MEDICAL PHYSICS DEPARTMENT

Director
John Aldrich

Senior Physicist
John Andrew

Physicists
Fan-Shih Chen
Cupido Daniels
Narayan Kulkarni

Ass't. Radiation Safety Officer
Pauline Jones

Electronics Technologist
George Matthews

Treatment Planning Technicians
Joleen Orr
Linda Purcell

Machinist
Ian Porter

Radium Curator
Peggy Wilson

Mould Room Assistant
Pauline Benoit

Secretary
Sandra Fox

Activities

After many years of planning and waiting, the new Cancer Foundation facility rose out of the site of the old Jubilee Building. For the first half of the year, treatments continued in both old Radiotherapy Departments, the Department in the Victoria General Hospital now much stained from water leakage and dust from the construction site immediately above. There were many days when the technologists had to cover the control consoles with plastic sheets during treatments, and staff working in the cesium room had to wear rubber boots! Finally, after many false starts, the move to the new quarters started in October, and the medical physics group was closely involved in the move of the major equipment including the therapy machines, the simulator, computers and radioactive sources. The two cobalt units were moved and were operating again in just over one week. The remainder of the equipment became operational in the new department over the following three weeks. Everyone is to be congratulated on their cooperation and selfless effort during the relocation. Just before Christmas the first of the linear accelerators, the AECL Therac-6, was delivered and, subsequently installed and calibrated. The first patient was treated on this unit on March 24, 1983.

Apart from the installation of the new accelerator, the medical physics group took on other new responsibilities this year. The majority of the equipment is now serviced in-house, and this has led to virtually zero unscheduled downtime for both patient planning and treatment.

The Foundation also took over the responsibility for all Iodine-131 and Phosphorus-32 treatments, and the preparation of these has meant an increase in the workload.

The Medical Physics Department has several responsibilities; the main one by far being the provision of physics support for radiotherapy. The major area is radiotherapy treatment planning where the radiotherapist's prescription for treatment is put into practice. This often involves complex computations to define the precise dose to the treatment area, and may involve the fabrication of customized shielding, patient immobilization devices, or compensators to enhance the delivery of the treatment. All radiotherapy machines are regularly checked for consistency of radiation output and all patient set-up parameters. This is a particularly important component of the acceptance of a new, complex machine such as a linear accelerator. Medical Physics staff also now service most of the equipment in the department. In cooperation with the radiotherapist and technologist, the medical physics group is also involved in the development of new treatment techniques. By means of a cross funding agreement, the medical physics group also provides consulting

services to the metropolitan hospitals and Dalhousie University with regard to radiological and radioisotope physics and radiation safety. The medical physics group has had departmental meetings every month to coordinate the several areas of the department.

A medical physics lecture series has been started with one member of the staff giving a lecture approximately every month. It was also a pleasure to welcome four physicists as outside speakers to the Clinic. The staff has been very happy to work with the radiotherapy technology students, both in the form of demonstrations and in a formal lecture program. Students from the Technical University of Nova Scotia and the computer course of the Land Survey Institute have also been involved in development projects in the Clinic.

During the year the group was fortunate to have George Matthews and Ian Porter join them as electronic technologist and machinist respectively, and both were of considerable help in the relocation of the departments. Cupido Daniels also joined the group as a medical physicist from the Cancer Foundation Clinic in London, Ontario.

The new facility has enabled the medical physics group to offer services comparable to other centres across Canada. Only one area has created serious difficulties for the group; this is the availability of machine tools for making special devices both for the patients and the treatment machines. It is hoped that this will be shortly rectified. The cesium storage area is also grossly overcrowded and it is hoped that renovation of this area can be started in the near future. The group looks forward to the installation of the remaining accelerator in the summer of 1983.

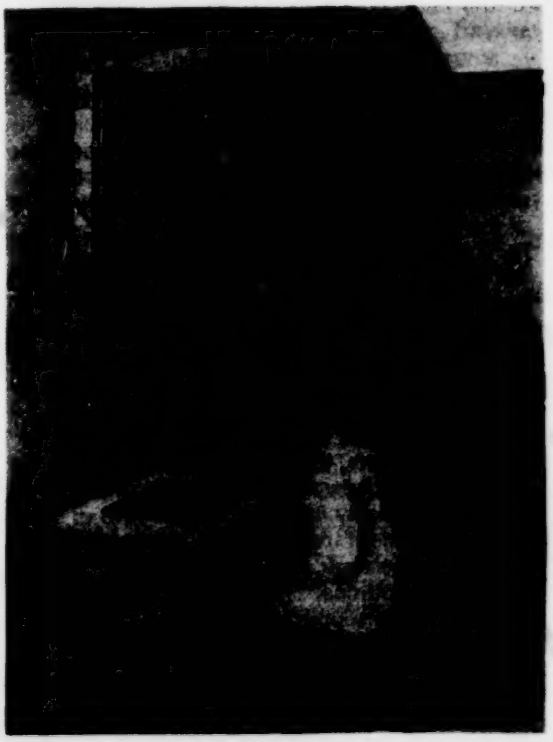
It is always a pleasure to acknowledge when staff have made a contribution to the name of the Foundation through lectures and publications. A list of these is appended below.

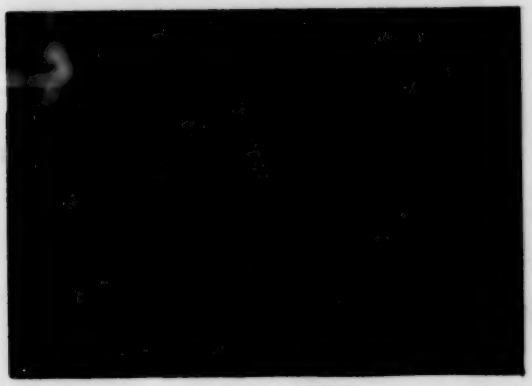
Publications

J.E. Aldrich, J.W. Andrew, "Measurements of X-Ray Exposures Using Mailed Thermoluminescent Dosimeters", Journal of the Canadian Association of Radiologists, 32, 202, 1981

J.W. Andrew, J.E. Aldrich, "A Microcomputer-based System for Radiotherapy Beam Compensator Design and Patient Contour Plotting", Medical Physics, 9, 279, 1982.

J.E. Aldrich, J.W. Andrew, "The Design of Shielding Windows Using Lead Glass, Lead Acrylic and Plate Glass", Radiology 146, 203, 1983





HALIFAX CLINIC

DISTRIBUTION OF NEW CANCERS BY SITE, SEX AND AGE GROUP — 1978

SITE	Sex	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90 +	Total
Lip	M				1	3	5	7	5	4		25
	F				1				1			2
Tongue	M					1	3	4	2			10
	F						3	3		2		8
Salivary Gland	M					1		1		1		3
	F			1	1	1	1	2				6
Gum	M					1		1				2
	F								1	1		2
Floor of Mouth	M					1	1	4	1	2		9
	F						1	2		1		4
Other & Unspecified Parts of Mouth	M					1		1		1		3
	F				1			1	2			4
Oropharynx	M						2	3				5
	F						1	1				2
Nasopharynx	M					1	1		1			3
	F						2	1				3
Hypopharynx	M						1	2	3			6
	F							1				1
Pharynx Unspecified	M											—
	F											—
Esophagus	M					1	3	5	1	1		11
	F							2		1		3
Stomach	M				1	1	9	25	15	10	1	62
	F				1	1	7	10	10	6		36
Small Intestine (Including Duodenum)	M						1		1			2
	F						2	2	1			5
Large Intestine (Except Rectum)	M			1	1	6	20	30	27	16	1	102
	F			1		5	16	31	39	24	5	121
Rectum & Rectosigmoid Junction	M				1	4	11	28	12	7	1	64
	F				1	4	15	16	17	8	1	62
Liver & Intrahepatic Bile Ducts	M								3			3
	F						1		1			2
Gallbladder & Bile Ducts	M							2	1	1		4
	F						1	1	3	5	1	11
Pancreas	M			1	1	3	9	3	13	4		34
	F					2	3	6	9	2	1	23
Peritoneum and Retroperitoneal Tissue	M											—
	F	1			1		1		1	2		6
Unspecified Digestive Organs	M							1		1		2
	F											—
Nose, Nasal Cavities, Middle Ear & Accessory Sinuses	M				1	1	2		1			5
	F					1		1				2
Larynx	M					3	6	7	1			17
	F					1		1	2			4
Trachea, Bronchus & Lung	M				4	13	67	106	71	12		273
	F		1		2	6	23	17	13	4		66
Other & Unspecified Respiratory Organs	M						1			1		2
	F					1						1
Bone	M		3					1	1			5
	F				1				1			2
Connective and Other Soft Tissue	M				2		2	2	1	1		8
	F		1	1		1		1	3	1		8
Malignant Melanoma of Skin	M			4	1	7	4	3	1			20
	F		1	6	5	4	5	5	1	1		28
Malignant Neoplasm of Skin	M			1	5	9	38	81	66	31	9	240
	F				7	14	24	40	36	24	3	148
Breast	M								1	1		2
	F			3	14	32	82	69	46	29	1	276
Cervix Uteri	F		1	46	62	26	17	17	7	6		182
Chorionepithelioma	F											—
Other Malignant Neoplasm of Uterus	F				1	7	27	36	12	5		88
Ovary, Fallopian Tube and Broad Ligament	F				3	6	14	15	13	1		52
Other & Unspecified Female Genital Organs	F			1	1	1		7	3	2	1	16
Prostate	M					2	7	48	67	39		163
Testis	M		2	1	5	2						10
Other & Unspecified Male Genital Organs	M						1	1	1			3
Bladder	M			1		4	14	26	13	7	1	66
	F					2	4	5	4	1		16
Kidney & Other Urinary Organs	M			1		2	3	6	8	2		22
	F				1	1	6	5	2	4		19
Eye	M							1				1
	F						1			1		2
Brain	M	1	1		2	4	4	7	3			22
	F	1	1		1		4	3				10
Other Parts of Nervous System	M	1			1	1	1	1				5
	F		1		1							2
Thyroid Gland	M						2	3				5
	F		1	1	2	2	2	1	1	1		11
Other Endocrine Glands	M					1						1
	F											—
Ill-Defined Sites	M											—
	F						1		1			2
Site Unspecified	M				1		4	11	5	3	1	25
	F				1	1	8	8	6	5	3	32
Lymphosarcoma and Reticulum Cell Sarcoma	M			1	2	1	6	8	4	2		26
	F	1	1	2	3	3	4	10	4		1	29
Hodgkin's Disease	M			1	3	2	1		1	1		9
	F		1	4			1					6
Other Lymphoid Tissue	M				1	1		2		1		5
	F				1		1	2	2			6
Multiple Myeloma	M						2	3	5	1		11
	F						3	3	1			7
Lymphatic Leukemia	M		4	1		1	1	1	1			9
	F							2		1		3
Myeloid Leukemia	M			1	1	3	3	7				15
	F		1		1			4	1			7
Monocytic Leukemia	M											—
	F											—
Other & Unspecified Leukemia	M											—
	F											—
Total — All Sites	M	2	10	14	34	81	236	443	336	150	14	1320
	F	3	10	67	113	121	282	331	244	138	17	1326
Total		5	20	81	147	202	518	774	580	288	31	2646

INCIDENCE OF CANCER PER 100,000 POPULATION 1978, 1979, 1980

Site	Total Population (1)						Population at Risk (2)					
	1978		1979		1980		1978		1979		1980	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Lip	5.9	0.5	5.7	0.5	5.5	0.5	19.2	1.4	18.3	1.4	17.4	1.4
Tongue	2.4	1.9	1.9	0.9	2.9	0.7	7.7	5.6	6.1	2.8	9.1	2.0
Salivary Gland	0.7	1.4	0.9	0.7	1.2	—	2.3	4.2	3.1	2.1	3.8	—
Gum	0.5	0.5	0.7	0.7	0.2	0.2	1.5	1.4	2.3	2.1	0.8	0.7
Floor or Mouth	2.1	0.9	0.2	0.9	2.4	0.5	6.9	3.1	0.8	2.7	7.6	1.4
Other & Unspecified Parts of Mouth	0.7	0.9	1.4	0.2	0.2	0.7	2.3	3.1	4.6	0.7	0.8	2.0
Oropharynx	1.2	0.5	0.9	—	1.4	0.7	3.8	1.4	3.1	—	4.5	2.0
Nasopharynx	0.7	0.7	0.7	0.2	0.5	0.5	2.3	2.1	2.3	0.7	1.5	1.4
Hypopharynx	1.4	0.2	0.9	0.2	0.9	0.2	4.6	0.7	3.1	0.7	3.0	0.7
Pharynx Unspecified	—	—	0.2	0.2	—	0.2	—	—	0.8	0.7	—	0.7
Esophagus	2.6	0.7	4.0	1.6	4.1	1.9	8.5	2.1	12.9	4.8	12.8	5.4
Stomach	14.8	8.5	17.3	9.4	14.8	7.3	47.7	25.1	55.7	27.5	46.8	21.1
Small Intestine (Including Duodenum)	0.5	1.2	1.2	0.7	0.2	0.7	1.5	3.5	3.8	2.1	0.8	2.0
Large Intestine (Except Rectum)	24.3	28.7	31.0	33.6	28.9	41.3	78.5	84.3	99.9	98.4	91.4	119.6
Rectum & Rectosigmoid Junction	15.2	14.7	13.9	16.5	16.2	13.6	49.2	43.2	45.0	40.6	51.4	39.4
Liver & Intrahepatic Bile Ducts	0.7	0.5	1.7	0.5	0.7	1.4	2.3	1.4	5.3	1.4	2.3	4.1
Gallbladder & Bile Ducts	0.9	2.6	2.3	1.9	2.4	2.1	3.1	7.7	6.9	5.5	7.6	6.1
Pancreas	8.1	5.6	8.5	7.3	5.7	7.7	26.2	16.0	27.5	21.3	18.1	22.4
Peritoneum and Retroperitoneal Tissue	—	1.4	0.5	0.5	0.9	1.4	—	4.2	1.5	1.4	3.0	4.1
Unspecified Digestive Organs	0.5	—	—	—	0.2	0.2	1.5	—	—	—	0.8	0.7
Nose, Nasal Cavities, Middle Ear & Sinuses	1.2	0.5	0.5	1.2	1.4	0.2	3.8	1.4	1.5	3.4	4.5	0.7
Larynx	4.1	0.9	7.8	0.9	8.1	0.9	13.1	2.8	25.2	2.8	25.7	2.7
Trachea, Bronchus & Lung	65.0	15.7	60.6	17.4	67.5	25.1	210.2	45.9	195.2	50.9	213.7	72.7
Other & Unspecified Respiratory Organs	0.5	0.2	0.2	0.2	0.2	—	1.5	0.7	0.8	0.7	0.8	—
Bone	1.2	0.5	1.7	0.9	0.5	0.9	3.9	1.4	5.3	2.8	1.5	2.7
Connective & Other Soft Tissue	1.9	1.9	0.7	0.7	0.9	2.3	6.2	5.6	2.3	2.1	3.0	6.8
Malignant Melanoma of Skin	4.8	6.6	4.3	5.6	3.3	4.7	15.4	19.5	13.7	16.5	10.6	13.6
Malignant Neoplasm of Skin	57.2	35.1	56.1	39.3	74.9	41.5	184.8	103.1	180.8	114.9	237.2	120.2
Breast	0.5	65.5	0.2	73.6	0.9	74.4	1.5	192.2	0.8	215.4	3.0	215.4
Cervix Uteri*	—	43.2	—	35.9	—	36.9	—	66.4	—	54.7	—	55.2
Chorionepithelioma	—	—	—	0.2	—	—	—	—	—	0.7	—	—
Other Malignant Neoplasm of Uterus	—	20.9	—	18.1	—	17.6	—	61.3	—	52.9	—	50.9
Ovary, Fallopian Tube and Broad Ligament	—	12.3	—	12.5	—	11.9	—	36.2	—	36.5	—	34.6
Other & Unspecified Female Genital Organs	—	3.8	—	6.1	—	4.2	—	11.1	—	17.9	—	12.2
Prostate	38.8	—	38.8	—	43.7	—	125.5	—	125.5	—	138.2	—
Testis	2.4	—	2.6	—	4.1	—	7.7	—	8.4	—	12.8	—
Other & Unspecified Male Genital Organs	0.7	—	1.7	—	1.7	—	2.3	—	5.3	—	5.3	—
Bladder	15.7	3.8	20.6	8.7	20.7	6.8	50.8	11.1	66.4	25.5	65.7	19.7
Kidney and Other Urinary Organs	5.2	4.5	6.2	3.8	6.7	4.2	16.9	13.2	19.8	11.0	21.1	12.2
Eye	0.2	0.5	0.9	—	—	0.5	0.8	1.4	3.1	—	—	1.4
Brain	5.2	2.4	5.7	3.9	7.9	3.3	16.9	6.9	18.3	11.7	24.9	9.5
Other Parts of Nervous System	1.2	0.5	0.7	0.5	—	0.9	3.8	1.4	2.3	1.4	—	2.7
Thyroid Gland	1.2	2.6	1.2	3.8	1.7	2.3	3.8	7.7	3.8	11.0	5.3	6.8
Other Endocrine Glands	0.2	—	0.2	0.2	0.2	0.5	0.8	—	0.8	0.7	0.7	1.4
Ill-Defined Sites	—	0.5	—	—	0.2	—	—	1.4	—	—	0.7	—
Site Unspecified	5.9	7.6	6.6	3.3	5.0	3.1	19.2	22.3	21.4	9.6	15.9	8.8
Lymphosarcoma & Reticulum Cell Sarcoma	6.2	6.9	5.9	5.9	4.8	2.3	20.0	20.2	19.1	17.2	15.1	6.8
Hodgkin's Disease	2.1	1.4	3.3	1.2	5.0	3.3	6.9	4.2	10.7	3.4	15.9	9.5
Other Lymphoid Tissue	1.2	1.4	1.2	1.4	0.5	0.9	3.8	4.2	3.8	4.1	1.5	2.7
Multiple Myeloma	2.6	1.7	2.8	2.1	2.6	2.1	8.5	4.9	9.2	6.1	8.3	6.1
Lymphatic Leukemia	2.4	0.7	2.4	1.4	3.3	2.8	6.9	2.1	7.6	4.1	10.6	8.2
Myeloid Leukemia	3.6	1.7	2.6	1.4	1.4	2.6	11.5	4.9	8.4	4.1	4.5	7.5
Monocytic Leukemia	—	—	—	0.2	—	—	—	—	—	0.7	—	—
Other and Unspecified Leukemia	—	—	0.5	0.5	0.5	—	—	—	1.5	1.4	1.5	0.7
Total — All Sites	314.5	314.7	329.9	327.8	357.3	338.5	1015.6	966.7	1063.6	901.1	1131.5	1031.5
Total — All Sites — Both Sexes	314.6		328.9		347.8		874.9		922.6		948.7	

Notes: (1) Total Population based on the estimated population of Nova Scotia

(2) Population at Risk is 40 years of age and older, except for *20 years of age and older.

CANCER TREATMENT AND RESEARCH FOUNDATION OF NOVA SCOTIA FINANCIAL STATEMENTS

Year Ended March 31, 1983

AUDITOR'S REPORT

To the Chairman and Members
of the Cancer Treatment and
Research Foundation of Nova Scotia

I have examined the balance sheet of the Cancer Treatment and Research Foundation of Nova Scotia as at March 31, 1983 and the statements of general fund revenues and expenses and special fund revenues and fund balance for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Foundation as at March 31, 1983 and the results of its operations for the year then ended in accordance with generally accepted accounting principles, except for the method of accounting for fixed assets as referred to in Note 1 to the financial statements, applied on a basis consistent with that of the preceding year.

A.W. Sarty
Auditor General

Halifax, Nova Scotia
June 8, 1983

BALANCE SHEET
As at March 31, 1983

ASSETS

	1983	1982
General Fund		
Cash	$193,879	$ 20,916
Short-term investments	215,674	—
Accounts receivable (net of allowance for doubtful accounts; 1983 - $1,281; 1982 - 0	271,688	5,604
Employee advances	3,209	400
	$684,450	$ 26,920
Special Fund (Note 2)		
Cash	$ 48,985	$ 242
Short-term investments	10,785	10,000
Accrued interest	2,161	119
Due from General Fund	1,000	—
	$ 62,931	$ 10,361

LIABILITIES AND FUND BALANCES

	1983	1982
General Fund		
Accounts payable and accrued liabilities (Note 3)	$567,202	$15,991
Unearned income	86,200	—
Due to Special Fund	1,000	—
Due to Province of Nova Scotia — Year end settlement account (Note 1(b))	30,048	—
Fund balance	—	10,929
	$684,450	$ 26,920
Special Fund (Note 2)		
Radiation Oncology Trust Fund	$ 8,517	—
Tumor Clinic Research Fund	2,791	—
Fund balance — restricted	11,653	10,361
— unrestricted	39,970	—
	$ 62,931	$ 10,361

GENERAL FUND
STATEMENT OF REVENUES AND EXPENSES
For The Year Ended March 31, 1983

	1983	1982
Revenues		
Nova Scotia Department of Health		
— Insured services	$1,596,000	$ 89,700
— Furniture and equipment	13,250	22,038
Hospital services	571,070	—
Other services	29,681	—
Investment income	—	2,449
Other	111	95
	$2,210,112	$114,282
Expenses		
Nursing services	335,979	—
Technical services	218,731	—
Oncology services	373,797	—
School services	15,994	—
Medical physics	435,121	—
Health records	383,572	—
Clinic administration	55,786	—
Administration	322,284	81,315
Special projects	25,550	—
Furniture and equipment	13,250	22,038
	2,180,064	103,353
Excess of revenue over expenses, payable to Department of Health (Note 1(b))	$ 30,048	$ 10,929

SPECIAL FUND
STATEMENT OF REVENUES AND FUND BALANCE
For The Year Ended March 31, 1983

	1983	1982
Revenues		
Donations	$ 5,367	$ 10,000
Investment income	24,966	361
Transfer from General Fund	10,929	—
	41,262	10,361
Fund balance, beginning of year	10,361	—
Fund balance, end of year	$ 51,623	$ 10,361
Represented by:		
Restricted funds	$ 11,653	$ 10,361
Unrestricted funds	39,970	—
	$ 51,623	$ 10,361

NOTES TO FINANCIAL STATEMENTS

For The Year Ended March 31, 1983

1. **Accounting Policies**

   (a) **Fixed Assets**

   Expenditures for furniture and equipment are charged directly to operations in the General Fund.

   (b) **Operating Surplus or Deficit**

   Beginning with the fiscal year ended March 31, 1983, any operating surplus, exclusive of donations and investment income, is repayable to the Department of Health. Conversely, deficits are recoverable from the Department of Health.

2. **Special Fund**

   The Special Fund was created during 1982-83 and includes restricted trust funds, investment income and donations. The Restricted Donation Fund reported in the 1982 financial statements now forms part of the Special Fund.

   The restricted trust funds represent contributions to the Foundation that are designated by the contributors to be used for specific purposes. The Foundation maintains accounting records of contributions and expenses for each designated purpose.

3. **Accounts Payable and Accrued Liabilities**

	March 31, 1983	March 31, 1982
Accounts payable - trade	$174,609	$ —
Accounts payable - Department of Finance (payroll)	302,904	—
Accrued liabilities	89,689	15,991
	$567,202	$ 15,991

4. **Comparative Figures**

   The Foundation was created under provisions of the Cancer Treatment and Research Foundation Act, 1980. The previous financial statements reflected only administrative operations from the start-up of the Foundation (September, 1981) to March 31, 1982.

   Medical operations started in April, 1982 and, as a result, financial statement presentation has changed to better present the results of operations. The preceding period has been restated to conform to the 1983 presentation.